

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Christophe Pierrat et al.

Application No.: filed Herewith

Parent Appln. Group No.: 1756

Filed: 9/9/2003

Parent Appln. Examiner: Stephen D. Rosasco

For: "Structure And Method Of Correcting Proximity Effects In A Tri-Tone Attenuated Phase-Shifting Mask"

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Date: September 9, 2003

INFORMATION DISCLOSURE STATEMENT

List of Sections Forming Part of This Information Disclosure Statement

The following sections are being submitted for this Information Disclosure Statement:

1. Identification of Prior Application in Which Listed Information Was Already Cited and for Which No Copies Are Submitted or Need Be Submitted

Section 1. Identification of Prior Application in Which Listed Information Was Already Cited and for Which No Copies Are Submitted or Need Be Submitted

This application relies, under 35 U.S.C. § 120, on the earlier filing date of prior application Serial No.: 09/746,369, filed on December 20, 2000, now allowed (U.S. Patent Number not yet known).

Copies of the documents listed on the accompanying Form PTO-1449 (22 pages) that are not enclosed were previously submitted in Application No. 09/746,369, from which this Application claims an earlier effective filing date.

Applicants respectfully request that the listed information be considered by the Examiner and be made of record in the above-identified application. If form PTO-1449 is enclosed, the Examiner is requested to initial and return it in accordance with MPEP § 609.

This statement is not intended to represent that a search has been made or that the information cited in the statement is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56.

This statement qualifies under 37 C.F.R. § 1.97, subsection (b) because (check all that apply):

- (1) It is being filed within 3 months of the application filing date and is other than a continued prosecution application under § 1.53(d)
-- OR --
- (2) It is being filed within 3 months of entry of a national stage
-- OR --
- (3) It is being filed before the mail date of the first Office Action on the merits.
-- OR --
- (4) It is being filed before the mailing of a first Office Action after the filing of a request for continued examination under § 1.114

SN: filed herewith

- 37 C.F.R. § 1.97(c). If this statement is being filed after the period specified in § 1.97(b), but before the mailing date of the earlier of a final office action under § 1.113, a notice of allowance under § 1.311, or an action that otherwise closes prosecution in the application, then:
- a certification as specified in § 1.97(e) is provided below; **or**
- a fee of \$180.00 as set forth in § 1.17(p) is authorized below, enclosed, or included with the payment of other papers filed together with this statement.
- 37 C.F.R. § 1.97(d). If this statement is being filed after the period specified in § 1.97(c), but on or before payment of the issue fee, then:
- A. a certification as specified in § 1.97(e) is completed below; **and**
- B. a fee of \$180.00 as set forth in § 1.17(p) is authorized below, enclosed, or included with the payment of other papers filed together with this statement.
- Fee Authorization.* Applicant believes NO fee is due. However, in the event a fee is found to be due, the Commissioner is hereby authorized to charge Deposit Account No. 50-0574 (Docket No. NTI-007-1D).

Date: 9-9-03

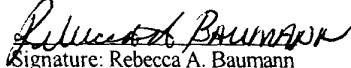

Signature of Practitioner

Jeanette S. Harms, Reg. No. 35,537
Bever, Hoffman & Harms, LLP

Tel. No.: 1-408-451-5907
Customer No.: 29477

I hereby certify that this correspondence is being deposited with the United States Postal Service as EXPRESS MAIL, Label No: EV 338 032 893 US addressed to: Mail Stop Patent Application, Commissioner for Patents, P.O. Box 1450, Alexandria, VA, 22313-1450.

9/9/03
Date


Signature: Rebecca A. Baumann

INFORMATION DISCLOSURE CITATION PTO-1449		ATTY. DOCKET NO.		SERIAL NO.			
		NTI-007-1D		Filed Herewith			
		APPLICANT: Christophe Pierrat					
		FILING DATE: 9/9/2003		GROUP: unknown			
U.S. PATENT DOCUMENTS							
EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE	
	5,503,951	04/02/1996	Flanders et al.	430		04/17/1995	
	5,565,286	10/15/1996	Lin	430		11/17/1994	
	5,725,969	03/10/1998	Lee	430		12/22/1995	
	6,004,702	12/21/1999	Lin	430		05/21/1998	
	6,010,807	01/04/2000	Lin	430		04/07/1998	
	4,890,309	12/26/1989	Smith, et al.	378	35	02/25/1987	
	5,288,569	2/22/1994	Lin	430	5	4/23/1992	
	6,312,854 B1	11/6/2001	Chen, et al.	430	5	3/16/1999	
FOREIGN PATENT DOCUMENTS							
EXAMINER'S INITIALS	PATENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO
	WO 97/45772	12/4/1997	WO			<input type="checkbox"/>	<input type="checkbox"/>
	WO 98/38549	9/3/1998	WO			<input type="checkbox"/>	<input type="checkbox"/>
	WO /99/27420	6/3/1999	WO			<input type="checkbox"/>	<input type="checkbox"/>
	WO 99/47981	9/23/1999	WO			<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)							
Wong, A., et al., "Deep-UV Lithographic Approaches for 1Gb DRAM", 1997 Symposium on VLSI Technology Digest of Technical Papers, pp. 127-128 (1997).							
Chen, J. Fung, et al., "High-T, Ternary Attenuating PSMs for the 130mm Node", Microlithography World \, pp. 12, 14, 16, 18, 20 & 30 (2000).							
EXAMINER		DATE CONSIDERED					

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

INFORMATION DISCLOSURE CITATION PTO-1449		ATTY. DOCKET NO.		SERIAL NO.		
		NTI-007-1D		Filed Herewith		
		APPLICANT Pierrat, et al.				
		FILING DATE 9/9/2003		GROUP unknown		
U.S. PATENT DOCUMENTS						
EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	4,231,811	11/4/80	Somekh, et al.	148	1.5	9/13/79
	4,456,371	6/26/84	Lin	355	71	6/30/82
	4,812,962	3/14/89	Witt	364	490	4/9/87
	4,902,899	2/20/90	Lin, et al.	250	492.1	6/1/87
	5,051,598	9/24/91	Ashton, et al.	250	492.2	9/12/90
	5,182,718	1/26/93	Harafuji, et al.	364	490	3/29/90
	5,241,185	8/31/93	Meiri, et al.	250	492.2	1/8/92
	5,242,770	9/7/93	Chen, et al.	430	5	1/16/92
	5,256,505	10/26/93	Chen, et al.	430	5	8/21/92
	5,302,477	4/12/94	Dao, et al.	430	5	8/21/92
	5,308,741	5/3/94	Kemp	430	312	7/31/92
	5,316,878	5/31/94	Saito, et al.	430	5	6/4/92
	5,328,807	7/12/94	Tanaka, et al.	430	311	6/7/91
	5,340,700	8/23/94	Chen, et al.	430	312	11/3/93
	5,352,550	10/4/94	Okamoto	430	5	4/23/93
	5,364,716	11/15/94	Nakagawa, et al.	430	5	9/3/92
	5,424,154	6/13/95	Borodovsky	430	5	12/10/93
	5,447,810	9/5/95	Chen, et al.	430	5	2/9/94
	5,498,579	3/12/96	Borodovsky, et al.	437	250	6/8/94
	5,523,186	6/4/96	Lin, et al.	430	5	12/16/94
	5,532,090	7/2/96	Borodovsky	430	5	3/1/95
	5,538,815	7/23/96	Oi, et al.	430	5	9/14/93
	5,553,273	9/3/96	Liebmann	395	500	4/17/95
EXAMINER		DATE CONSIDERED				

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP § 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

INFORMATION DISCLOSURE CITATION PTO-1449		ATTY. DOCKET NO. NTI-007-1D		SERIAL NO. Filed Herewith		
		APPLICANT Pierrat, et al.				
		FILING DATE 9/9/2003		GROUP unknown		
U.S. PATENT DOCUMENTS						
EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	5,553,274	9/3/96	Liebmann	395	500	6/6/95
	5,573,890	11/12/96	Spence	430	311	7/18/94
	5,595,843	1/21/97	Dao	430	5	3/30/95
	5,620,816	4/15/97	Dao	430	5	10/13/95
	5,631,110	5/20/97	Shioiri, et al.	430	5	6/5/95
	5,635,316	6/3/97	Dao	430	5	10/13/95
	5,636,002	6/3/97	Garofalo	355	53	10/31/95
	5,657,235	8/12/97	Liebmann, et al.	364	474.24	5/3/95
	5,663,017	9/2/97	Schinella, et al.	430	5	6/7/95
	5,663,893	9/2/97	Wampler, et al.	364	491	5/3/95
	5,702,848	12/30/97	Spence	430	5	8/23/96
	5,705,301	1/6/98	Garza, et al.	430	5	2/27/96
	5,707,765	1/13/98	Chen	430	5	5/28/96
	5,723,233	3/3/98	Garza, et al.	430	5	2/27/96
	5,740,068	4/14/98	Liebmann, et al.	364	489	5/30/96
	5,761,075	6/2/98	Oi, et al.	364	488	5/31/96
	5,766,804	6/16/98	Spence	430	5	8/23/96
	5,766,806	6/16/98	Spence	430	5	9/9/96
	5,807,649	9/15/98	Liebmann, et al.	430	5	10/31/96
	5,815,685	9/29/98	Kamon	395	500	9/15/95
	5,821,014	10/13/98	Chen, et al.	430	5	2/28/97
	5,825,647	10/20/98	Tsudaka	364	167.03	3/12/96
	5,827,623	10/27/98	Ishida, et al.	430	5	10/30/96
	5,847,959	12/8/98	Veneklasen, et al.	364	468.28	1/28/97
EXAMINER		DATE CONSIDERED				

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP § 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

INFORMATION DISCLOSURE CITATION PTO-1449		ATTY. DOCKET NO. NTI-007-1D		SERIAL NO. Filed Herewith		
		APPLICANT Pierrat, et al.				
		FILING DATE 9/9/2003		GROUP unknown		
U.S. PATENT DOCUMENTS						
EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	5,858,580	1/12/99	Wang, et al.	430	5	9/17/97
	5,862,058	1/19/99	Samuels, et al.	364	491	5/16/96
	5,863,682	1/26/99	Abe, et al.	430	30	2/21/97
	5,879,844	3/9/99	Yamamoto, et al.	430	30	12/20/96
	5,885,734	3/23/99	Pierrat, et al.	430	5	8/15/96
	5,900,338	5/4/99	Garza, et al.	430	5	8/15/97
	5,923,566	6/13/99	Galan, et al.	364	489	3/25/97
	5,994,002	11/30/99	Matsuoka	430	5	9/4/97
	6,077,310	6/20/00	Yamamoto, et al.	716	19	1/29/99
	6,078,738	6/20/00	Garza, et al.	395	500.22	5/8/97
	6,081,658	6/27/00	Rieger, et al.	395	500.22	12/31/97
	6,083,275	7/4/00	Heng, et al.	716	19	1/9/98
EXAMINER		DATE CONSIDERED				

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP § 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP § 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

INFORMATION DISCLOSURE CITATION PTO-1449	ATTY. DOCKET NO.	SERIAL NO.
	NTI-007-1D	Filed Herewith
	APPLICANT Pierrat, et al.	
FILING DATE 9/9/2003	GROUP unknown	
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)		
	Ackmann, P. et al., "Phase Shifting And Optical Proximity Corrections To Improve CD Control On Logic Devices In Manufacturing For Sub 0.35 μm I-Line", Advance Micro Devices (8 pages).	
	Asai, S. et al., "High Performance Optical Lithography Using A Separated Light Source", <i>J. Vac. Sci. Technol. B</i> , Vol. 10, No. 6, pp. 3023-3026, November/December 1992.	
	Asai, N. et al., "Proposal For The Coma Aberration Dependent Overlay Error Compensation Technology", <i>Jpn. J. Appl. Phys.</i> , Vol. 37, pp. 6718-6722 (1998).	
	Barouch, E. et al., "OPTIMASK: An OPC Algorithm For Chrome And Phase-Shift Mask Design", <i>SPIE</i> , Vol. 2440, pp. 192-206, February 1995.	
	Brunner, T. et al., "170nm Gates Fabricated By Phase-Shift Mask And Top Anti-Reflector Process", <i>SPIE</i> , Optical/Laser Microlithography VI, Vol. 1927, pp. 182-189 (1993).	
	Brunner, T., "Rim Phase-Shift Mask Combined With Off-Axis Illumination: A Path To 0.5λ/Numerical Aperture Geometries", <i>Optical Engineering</i> , Vol. 32, No. 10, pp. 2337-2343, October 1993.	
	Chen, J.F. et al., "Full-Chip Optical Proximity Correction With Depth Of Focus Enhancement", <i>Microlithography World</i> (1997).	
	Chen, J.F. et al., "Optical Proximity Correction For Intermediate-Pitch Features Using Sub-Resolution Scattering Bars", MicroUnity Systems Engineering, Inc., Sunnyvale, California, pp. 1-16.	
	Chen, J.F., et al., "Practical Method For Full-Chip Optical Proximity Correction", MicroUnity Systems Engineering, Inc., Sunnyvale, California (14 pages).	
	Cobb, et al., "Fast Sparse Aerial Image Calculation For OPC", <i>SPIE</i> , Vol. 2621, pp. 534-544.	
EXAMINER	DATE CONSIDERED	

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP § 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

INFORMATION DISCLOSURE CITATION PTO-1449	ATTY. DOCKET NO.	SERIAL NO.
	NTI-007-1D	Filed Herewith
	APPLICANT Pierrat, et al.	
FILING DATE 9/9/2003	GROUP unknown	
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)		
	Fukuda, H. et al., "Determination Of High-Order Lens Aberration Using Phase/Amplitude Linear Algebra", <i>J. Vac. Sci. Technol. B</i> , Vol. 17, No. 6, pp. 3318-3321, November/December 1999.	
	Fukuda, H., "Node-Connection/Quantum Phase-Shifting Mask: Path To Below 0.3 μm Pitch, Proximity Effect Free, Random Interconnects And Memory Patterning", <i>J. Vac. Sci. Technol. B</i> , Vol. 17, No. 6, pp. 3291-3295, November/December 1999.	
	Galan, G. et al., "Application Of Alternating-Type Phase Shift Mask To Polysilicon Level For Random Logic Circuits", <i>Jpn. J. Appl. Phys.</i> , Vol. 33, pp. 6779-6784 (1994).	
	Garofalo, J. et al., "Automated Layout Of Mask Assist-Features For Realizing 0.5k ₁ ASIC Lithography", <i>SPIE</i> , Vol. 2440, pp. 302-312 (1995).	
	Garofalo, J. et al., "Automatic Proximity Correction For 0.35 μm I-Line Photolithography", <i>IEEE</i> , pp. 92-94 (1994).	
	Garofalo, J. et al., "Mask Assisted Off-Axis Illumination Technique For Random Logic", <i>J. Vac. Sci. Technol. B</i> , Vol. 11, No. 6, pp. 2651-2658, November/December 1993.	
	Gotoh, Y. et al., "Pattern Dependent Alignment Technique For Mix-And-Match Electron-Beam Lithography With Optical Lithography", <i>J. Vac. Sci. Technol. B</i> , Vol. 16, No. 6, pp. 3202-3205, November/December 1998.	
	Harafuji, K. et al., "A Novel Hierarchical Approach For Proximity Effect Correction In Electron Beam Lithography", <i>IEEE</i> , Vol. 12, No. 10, pp. 1508-1514, October 1993.	
EXAMINER	DATE CONSIDERED	

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP § 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

INFORMATION DISCLOSURE CITATION PTO-1449	ATTY. DOCKET NO.	SERIAL NO.
	NTI-007-1D	Filed Herewith
	APPLICANT Pierrat, et al.	
	FILING DATE 9/9/2003	GROUP unknown
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)		
	Inokuchi, K. et al., "Sub-Quarter-Micron Gate Fabrication Process Using Phase-Shifting Mask For Microwave GaAs Devices", <i>Japanese Journal of Applied Physics</i> , Vol. 30, No. 12B, pp. 3818-3821, December 1991.	
	Ishiwata, N. et al., "Novel Alternating Phase Shift Mask With Improved Phase Accuracy", <i>SPIE</i> , Proceedings of the 17 th Annual Symposium on Photomask Technology and Management, Vol. 3236, pp. 243-249 (1997).	
	Jinbo, H. et al., "0.2 μm Or Less i-Line Lithography By Phase-Shifting-Mask Technology", <i>IEEE</i> , pp. 33.3.1-33.3.4 (1990).	
	Jinbo, H. et al., "Application Of Blind Method To Phase-Shifting Lithography", <i>IEEE</i> , 1992 Symposium on VLSI Technology Digest of Technical Papers, pp. 112-113 (1992).	
	Jinbo, H. et al., "Improvement Of Phase-Shifter Edge Line Mask Method", <i>Japanese Journal of Applied Physics</i> , Vol. 30, No. 11B, pp. 2998-3003, November 1991.	
	Karklin, L., "A Comprehensive Simulation Study Of The Photomask Defects Printability", <i>SPIE</i> , Vol. 2621, pp. 490-504 (1995).	
	Kimura, T. et al., "Subhalf-Micron Gate GaAs Mesfet Process Using Phase-Shifting-Mask Technology", <i>IEEE</i> , GaAs IC Symposium, pp. 281-284 (1991).	
	Levenson, M. et al., "Improving Resolution In Photolithography With A Phase-Shifting Mask", <i>IEEE</i> Transactions on Electron Devices, Vol. ED-29, No. 12, pp. 1828-1836, December 1982.	
	Lin, B.J., "Methods To Print Optical Images At Low-k ₁ Factors", <i>SPIE</i> , Optical/Laser Microlithography III, Vol. 1264, pp. 2-13 (1990).	
	Lin, B.J., "Phase-Shifting Masks Gain An Edge", <i>IEEE Circuits & Devices</i> , pp. 28-35, March 1993.	
	Lithas, "Lithas: Optical Proximity Correction Software" (2 pages).	
	Liu, H.Y. et al., "Fabrication of 0.1 μm T-Shaped Gates By Phase-Shifting Optical Lithography", <i>SPIE</i> , Optical/Laser Microlithography VI, Vol. 1927, pp. 42-52 (1993).	
EXAMINER	DATE CONSIDERED	

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP § 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

INFORMATION DISCLOSURE CITATION PTO-1449	ATTY. DOCKET NO. NTI-007-1D	SERIAL NO. Filed Herewith
	APPLICANT Pierrat, et al.	
	FILING DATE 9/9/2003	GROUP unknown
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)		
	Matsuoka, K. et al., "Application Of Alternating Phase-Shifting Mask To 0.16 μm CMOS Logic Gate Patterns", Matsushita Electric Ind. Co., Ltd. (9 pages).	
	Microunity, "OPC Technology & Product Description", MicroUnity Systems Engineering, Inc., pp. 1-5.	
	Mizuno, F. et al., "Practical Phase-Shifting Mask Technology For 0.3 μm Large Scale Integrations", <i>J. Vac. Sci. Technol. B</i> , Vol. 12, No. 6, pp. 3799-3803, November/December 1994.	
	Morimoto, H. et al., "Next Generation Mask Strategy – Technologies Are Ready For Mass Production Of 256MDRAM?", <i>SPIE</i> , Vol. 3236, pp. 188-189 (1997).	
	Neureuther, A., "Modeling Phase Shifting Masks", <i>SPIE</i> , 10 th Annual Symposium on Microlithography, Vol. 1496, pp. 80-85 (1990).	
	Nistler, J. et al., "Large Area Optical Design Rule Checker For Logic PSM Application", <i>SPIE</i> , Photomask and X-Ray Mask Technology, Vol. 2254, pp. 78-92 (1994).	
	Nistler, J. et al., "Phase Shift Mask Defect Printability Analysis", Proceedings of the Microlithography Seminar INTERFACE '93, OCG Microelectronic Materials, Inc., pp. 11-28 (1993).	
	Ohtsuka, H. et al., "Phase Defect Repair Method For Alternating Phase Shift Masks Conjugate Twin-Shifter Method", <i>Jpn. J. Appl. Phys.</i> , Vol. 31, pp. 4143-4149 (1992).	
	Park, C. et al., "An Automatic Gate CD Control For A Full Chip Scale SRAM Device", <i>SPIE</i> , Vol. 3236, pp. 350-357 (1997).	
	Pati, Y.C. et al., "Phase-Shifting Masks For Microlithography: Automated Design And Mask Requirements", <i>J. Opt. Soc. Am.</i> , Vol. 11, No. 9, pp. 2438-2452, September 1994.	
	Pierrat, C. et al., "A Rule-Based Approach To E-Beam And Process-Induced Proximity Effect Correction For Phase-Shifting Mask Fabrication", <i>SPIE</i> , Vol. 2194, pp. 298-309 (1994).	
	Pierrat, C. et al., "Phase-Shifting Mask Topography Effects On Lithographic Image Quality", <i>IEEE</i> , pp. 3.3.1-3.3.4 (1992).	
EXAMINER	DATE CONSIDERED	

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP § 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

INFORMATION DISCLOSURE CITATION PTO-1449	ATTY. DOCKET NO.	SERIAL NO.
	NTI-007-1D	Filed Herewith
	APPLICANT Pierrat, et al.	
	FILING DATE 9/9/2003	GROUP unknown
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)		
	Precim, "Proxima System", Precim Company, Portland, Oregon (2 pages).	
	Precim, "Proxima Wafer Proximity Correction System", Precim Company, Portland, Oregon (2 pages).	
	Rieger, M. et al., "Customizing Proximity Correction For Process-Specific Objectives", <i>SPIE</i> , Vol. 2726, pp. 651-659 (1996).	
	Rieger, M. et al., "Mask Fabrication Rules For Proximity-Corrected Patterns", Precim Company, Portland, Oregon (10 pages).	
	Rieger, M. et al., "System For Lithography Proximity Compensation", Precim Company, Portland, Oregon, September 1993 (28 pages).	
	Rieger, M. et al., "Using Behavior Modeling For Proximity Correction", Precim Company, Portland, Oregon (6 pages).	
	Roman, B. et al., "Implications Of Device Processing On Photomask CD Requirements", <i>SPIE</i> , Vol. 3236 (1997) (Abstract Only).	
	Saleh, B. et al., "Reduction Of Errors Of Microphotographic Reproductions By Optimal Corrections Of Original Masks", <i>Optical Engineering</i> , Vo. 20, No. 5, pp. 781-784, September/October 1981.	
	Spence, C. et al., "Automated Determination Of CAD Layout Failures Through Focus: Experiment And Simulation", <i>SPIE</i> , Vol. 2197, pp. 302-313 (1994).	
	Spence, C. et al., "Detection Of 60° Phase Defects On Alternating PSMs", Advance Micro Devices, KLA-Tencor, DuPont RTC (2 pages).	
	Spence, C. et al., "Integration Of Optical Proximity Correction Strategies In Strong Phase Shifters Design For Poly-Gate Layers", <i>Bacus News</i> , Vol. 15, Issue 12, pp. 1, 4-13, December 1999.	
	Stirnimann, J. et al., "Fast Proximity Correction With Zone Sampling", <i>SPIE</i> , Vol. 2197, pp. 294-301 (1994).	
EXAMINER	DATE CONSIDERED	

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP § 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

INFORMATION DISCLOSURE CITATION PTO-1449	ATTY. DOCKET NO. NTI-007-1D	SERIAL NO. Filed Herewith
	APPLICANT Pierrat, et al.	
	FILING DATE 9/9/2003	GROUP unknown
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)		
	Stirnimann, J. et al., "Optimizing Proximity Correction For Wafer Fabrication Processes", <i>SPIE</i> , Photomask Technology and Management, Vol. 2322, pp. 239-246 (1994).	
	Stirnimann, J. et al., "Wafer Proximity Correction And Its Impact On Mask-Making", <i>Bacus News</i> , Vol. 10, Issue 1, pp. 1, 3-7, 10-12, January 1994.	
	Sugawara, M. et al., "Defect Printability Study Of Attenuated Phase-Shifting Masks For Specifying Inspection Sensitivity", Semiconductor Company, Sony Corporation, Kanagawa, Japan (16 pages).	
	Terasawa, T. et al., "0.3-Micron Optical Lithography Using A Phase-Shifting Mask", <i>SPIE</i> , Optical/Laser Microlithography II, Vol. 1088, pp. 25-33, March 1989.	
	Trans Vector, "Now Better Quality Photomasks", Trans Vector Technologies, Inc., Camarillo, California (4 pages).	
	Watanabe, H. et al., "Detection And Printability Of Shifter Defects In Phase-Shifting Masks II Defocus Characteristics", <i>Jpn. J. Appl. Phys.</i> , Vol. 31, pp. 4155-4160 (1992).	
	Wiley, J. et al., "Phase Shift Mask Pattern Accuracy Requirements And Inspection Technology", <i>SPIE</i> , Integrated Circuit Metrology, Inspection, and Process Control V, Vol. 1464, pp. 346-355 (1991).	
	Yen, A. et al., "Characterization And Correction Of Optical Proximity Effects In Deep-Ultraviolet Lithography Using Behavior Modeling", <i>J. Vac. Sci. Technol. B</i> , Vol. 14, No. 6, pp. 4175-4178, November/December 1996.	
EXAMINER	DATE CONSIDERED	

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP § 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

INFORMATION DISCLOSURE CITATION PTO-1449		Atty. Docket No. NTI-007-1D	Serial No. Filed Herewith
		Applicant PIERRAT, Christophe	
		Filing Date 9/9/2003	Group unknown

U.S. PATENT DOCUMENTS

EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	4,037,918	7/26/1977	Kato	350	3.5	7/31/1975
	4,426,584	1/17/1984	Bohlen, et al.	250	492.2	6/3/1981
	4,895,780	1/23/1990	Nissan-Cohen, et al.	430	5	10/25/1988
	5,208,124	5/4/1993	Sporon-Fiedler, et al.	430	5	3/19/1991
	5,324,600	6/28/1994	Jinbo, et al.	430	5	7/7/1992
	5,334,542	8/2/1994	Saito, et al.	437	40	11/18/1992
	5,480,746	1/2/1996	Jinbo, et al.	430	5	5/16/1994
	5,496,666	3/5/1996	Chu, et al.	430	5	10/27/1994
	5,527,645	6/18/1996	Pati, et al.	430	5	11/17/1994
	5,537,648	7/16/1996	Liebmann, et al.	395	500	8/15/1994
	5,539,568	7/23/1996	Lin, et al.	359	285	6/7/1995
	5,636,131	6/3/1997	Liebmann, et al.	364	490	5/12/1995
	5,682,323	10/28/1997	Pasch, et al.	364	491	3/6/1995
	5,958,635	9/28/1999	Reich, et al.	430	30	10/20/1997
	5,972,541	10/26/1999	Sugasawara, et al.	430	5	3/4/1998
	5,998,068	12/7/1999	Matsuoka	430	5	1/27/1998
	6,007,310	12/28/1999	Jacobsen, et al.	417	362	5/23/1997
	6,057,063	5/2/2000	Liebmann, et al.	430	5	4/14/1997
	6,066,180	5/23/2000	Kim, et al.	716	19	3/15/1999
	6,077,630	6/20/2000	Pierrat	430	5	1/8/1998
	6,114,071	9/5/2000	Chen, et al.	430	5	4/6/1998
	6,289,499	9/11/2001	Rieger, et al.	716	21	1/7/2000
	6,228,539 B1	5/8/2001	Wang, et al.	430	5	1/12/1999

EXAMINER: _____

Date Considered: _____

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP § 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

INFORMATION DISCLOSURE CITATION PTO-1449		Atty. Docket No. NTI-007-1D Applicant PIERRAT, Christophe	Serial No. Filed Herewith			
		Filing Date 9/9/2003	Group unknown			
U.S. PATENT DOCUMENTS						
EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	6,249,597 B1	6/19/2001	Tsudaka	382	144	12/17/1998
	6,251,549 B1	6/26/2001	Levenson	430	11	10/28/1999
	6,258,493 B1	7/10/2001	Wang, et al.	430	5	7/17/2000

EXAMINER: _____

Date Considered: _____

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP § 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

INFORMATION DISCLOSURE CITATION PTO-1449		Atty. Docket No. NTI-007-1D Applicant PIERRAT, Christophe	Serial No. Filed Herewith				
		Filing Date 9/9/2003	Group unknown				
FOREIGN PATENT DOCUMENTS							
EXAMINER'S INITIALS	PATENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
	3-80525	4/5/1991	JP			<input type="checkbox"/>	<input type="checkbox"/>
	JP 6-67403	3/11/1994	JP			<input checked="" type="checkbox"/>	<input type="checkbox"/>
	2,324,169 A	10/14/1998	GB			<input type="checkbox"/>	<input type="checkbox"/>
	EP 0 464 492 A1	1/8/1992	EP			<input type="checkbox"/>	<input type="checkbox"/>
	EP 0 653 679 A2	5/17/1995	EP			<input type="checkbox"/>	<input type="checkbox"/>
	WO 99/47981	9/23/1999	WO			<input type="checkbox"/>	<input type="checkbox"/>
	JP 62067547	3/27/1987	JP			<input type="checkbox"/>	<input type="checkbox"/>
	DE 195 45 163 A1	6/5/1996	DE			<input type="checkbox"/>	<input type="checkbox"/>

EXAMINER: _____

Date Considered: _____

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP § 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

INFORMATION DISCLOSURE CITATION	Atty. Docket No.	Serial No.
PTO-1449	NTI-007-1D Applicant PIERRAT, Christophe	Filed Herewith
	Filing Date	Group
	9/9/2003	unknown

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

EXAMINER'S INITIALS	CITATION
	Choi, Y., et al., "Optical Proximity Correction on Attenuated Phase Shifting Photo Mask for Dense Contact Array", LG Semicon Company (11 pages).
	Schmidt, R., et al., "Impact of Coma on CD Control for Multiphase PSM Designs", AMD, ASML (11 pages).
	Lucas, K., et al., "Model Based OPC for 1st Generation 193nm Lithography", Motorola Inc., IDT assignee to IMEC (12 pages).
	Sturman, J., et al., "Quantifying Proximity and Related Effects in Advanced Wafer Processes", Precim Compnay, Hewlett Packard Labs (9 pages).
	Sugawara, M., et al., "Practical Evaluation of Optical Proximity Effect Correction by EDM Methodology", Sony Corporation (11 pages).
	Granik, Y., et al., "MEEF as a Matrix", Mentor Graphics Corporation (11 pages).
	Kang, D., et al., "Effects of Mask Bias on the Mask Error Enhancement Factor (MEEF) of Contact Holes" (11 pages).
	Matsuura, S., et al., "Reduction of Mask Error Enhancement Factor (MEEF) by the Optimum Exposure Dose Self-Adjusted Mask", NEC Corporation (12 pages).
	Erdmann, A., "Topography Effects and Wave Aberrations in Advanced PSM-Technology", Fraunhofer Institute of Integrated Circuits (11 pages).
	Granik, Y., et al., "CD Variation Analysis Technique and its Application to the Study of PSM Mask Misalignment", Mentor Graphics (9 pages).
	Hanyu, et al., "New Phase-Shifting Mask with Highly Transparent SiO ₂ Phase Shifters", Fujitsu Laboratories Ltd. (11 pages).
	Ishiwata, N., et al., "Fabrication of Phase-Shifting Mask", Fujitsu Limited (11 pages).
	Levenson, M., et al., "Phase Phirst! An Improved Strong-PSM Paradigm", M.D. Levenson Consulting, Petersen Advanced Lithography, KLA-Tencor (10 pages).
	Levenson, M., et al., "SCAA Mask Exposures and Phase Phirst Design for 110nm and Below", M.D. Levenson Consulting, Canon USA, Inc., JSR Microelectronics, Inc. (10 pages).

EXAMINER: _____

Date Considered: _____

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP § 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

INFORMATION DISCLOSURE CITATION PTO-1449		Atty. Docket No. NTI-007-1D Applicant PIERRAT, Christophe	Serial No. Filed Herewith
		Filing Date 9/9/2003	Group unknown
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)			
EXAMINER'S INITIALS	CITATION		
	Lin, B.J., "The Relative Importance of the Building Blocks for 193nm Optical Lithography", Linnovation, Inc. (12 pages).		
	McCallum, M., et al., "Alternating PSM Mask Performance - a Study of Multiple Fabrication Technique Results", International SEMATECH (6 pages).		
	Morikawa, Y., et al., "100nm-alt.PSM Structure Discussion for ArF Lithography", Dai-Nippon Printing Co., Ltd. (15 pages).		
	Ozaki, T., et al., "A 0.15um KrF Lithography for 1Gb DRAM Product Using Highly Printable Patterns and Thin Resist Process", Toshiba Corporation (2 pages).		
	Rhyins, P., et al., "Characterization of Quartz Etched PSM Masks for KrF Lithography at the 100nm Node", Photronics, Inc., MIT Lincoln Lab, ARCH Chemicals, Finle Technologies, KLA Tencor Corp. (10 pages).		
	Ronse, K., et al., "Thin Film Interference Effects in Phase Shifting Masks Causing Phase and Transmittance Errors", IMEC (15 pages).		
	Rosenbluth, A., et al., "Optimum Mask and Source Patterns to Print a Given Shape", IBM (17 pages).		
	Sakata, M., et al., "A Novel Radiation Sensitive Spin-on-Glass Convertible into SiO ₂ and the Simple Fabrication Process Using It", Oki Electric Industry Co. Ltd. (3 pages).		
	Schmidt, R., et al., "Impact of Coma on CD Control for Multiphase PSM Designs", AMD, ASML (10 pages).		
	Sewell, H., et al., "An Evaluation of the Dual Exposure Technique", SVG Lithography Systems Inc. (11 pages).		
	Spence, C., et al., "Optimization of Phase-Shift Mask Designs Including Defocus Effects", AMD, Princeton University, Vecor Technologies Inc. (8 pages).		
	Suzuki, A., et al., "Multilevel Imaging System Realizing k1=-.3 Lithography", Canon Inc. (13 pages).		
	Vandenbergh, G., et al., "(Sub-)100nm Gate Patterning Using 248nm Alternating PSM", IMEC, Mentor Graphics (9 pages).		
	Fritze, M., et al., "100-nm Node Lithography with KrF?", MIT Lincoln Lab, Numerical Technologies, Photronics, Arch Chemicals (14 pages).		

EXAMINER: _____

Date Considered: _____

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP § 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

INFORMATION DISCLOSURE CITATION PTO-1449		Atty. Docket No. NTI-007-1D Applicant PIERRAT, Christophe	Serial No. Filed Herewith
		Filing Date 9/9/2003	Group unknown
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)			
EXAMINER'S INITIALS	CITATION		
	Fukuda, H., et al., "Patterning of Random Interconnect Using Double Exposure of Strong-Type PSMs", Hitachi Central Research Lab (8 pages).		
	Ferguson, R., et al., "Pattern-Dependent Correction of Mask Topography Effects for Alternating Phase-Shifting Masks", IBM Microelectronics, University of California Berkeley (12 pages).		
	Toublan, O., et al., "Phase and Transmission Errors Aware OPC Solution for PSM: Feasibility Demonstration", Mentor Graphics Corp. (7 pages).		
	Yanagishita, Y., et al., "Phase-Shifting Photolithography Applicable to Real IC Patterns", Fujitsu Limited (11 pages).		
	Levenson, M., et al., "The Phase-Shifting Mask II: Imaging Simulations and Submicrometer Resist Exposures", IEEE Transactions on Electron Devices, Vol. ED-31, No. 6, pp. 753-763, June 1984.		
	IBM, "Method to Produce Sizes in Openings in Photo Images Smaller Than Lithographic Minimum Size", IBM Technical Disclosure Bulletin, Vol. 29, No. 3, p. 1328, August 1986.		
	Buraschi, M., et al., "Optical-Diffraction-Based Modulation of Photoresist Profile or Microlithography Applications", Optical Engineering, Vol. 28, No. 6, pp. 654-658, June 1989.		
	Nitayama, A., et al., "New Phase Shifting Mask with Self-Aligned Phase Shifters for a Quarter Micron Photolithography", IEDM, pp. 3.3.1-3.3.4, December 3-6, 1989.		
	Toh, K., et al., "Chromeless Phase-Shifted Masks: A New Approach to Phase-Shifting Masks", BACUS - Tenth Annual Symposium on Microlithography, September 1990 (27 pages).		
	Yamanaka, T., et al., "A 5.9um ² Super Low Power SRAM Cell Using a New Phase-Shift Lithography", IEDM, pp. 18.3.1-18.3.4 (1990).		
	Nakagawa, K., et al., "Fabrication of 64m DRAM with I-Line Phase-Shift Lithography", IEDM, pp. 33.1.1-33.1.4 (1990).		
	Watanabe, H., et al., "Transparent Phase Shifting Mask", IEDM, pp. 33.2.1-33.2.4 (1990).		
	Fu, C.C., et al., "Enhancement of Lithographic Patterns by Using Serif Features", IEEE, Transactions On Electron Devices, Vol. 38, No. 12, pp. 2599-2603, December 1991.		
	Burggraaf, P., "Four More Significant Japanese Advances in Phase Shifting Technology", Semiconductor International, p. 16, December 1991.		

EXAMINER: _____

Date Considered: _____

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP § 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

INFORMATION DISCLOSURE CITATION	Atty. Docket No.	Serial No.
PTO-1449	NTI-007-1D Applicant PIERRAT, Christophe	Filed Herewith
	Filing Date 9/9/2003	Group unknown

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

EXAMINER'S INITIALS	CITATION
	Kemp, K., et al., "Optimized Phase Shift Mask Designs for Real Devices", KTI Microlithography Seminar, pp. 67-75, October 14-15, 1991.
	Newmark, D., et al., "Phase-Shifting Mask Design Tool", SPIE - 11th Annual BACUS Symposium on Photmask Technology, Vol. 1604, pp. 226-235, September 25-27, 1991.
	Nolscher, C., et al., "Investigation of Self-Aligned Phase-Shifting Reticles by Simulation Techniques", SPIE - Optical/Laser Microlithography IV, Vol. 1463, pp. 135-150 (1991).
	Burggraaf, P., "Lithography's Leading Edge, Part 1: Phase-Shift Technology and Part 2: I-Line and Beyond", Semiconductor International, pp. 43-47 and 52-56, February 1992.
	Hosono, K., et al., "A Novel Architecture for High Speed Dual Image Generation of Pattern Data for Phase Shifting Reticle Inspection", SPIE - Integrated Circuit Metrology, Inspection, and Process Control VI, Vol. 1673, pp. 229-235 (1992).
	IBM, "Phase-Shift Mask Utilizing Silicon Oxy-Nitride as a Low Reflectivity Phase-Shift Layer", IBM Technical Disclosure Bulletin, Vol. 34, No. 10B, pp. 360-361, March 1992.
	Ronse, K., et al., "Comparison of Various Phase Shift Strategies and Application to 0.35um ASIC Designs", SPIE - Optical/Laser Microlithography VI, Vol. 1927, pp. 2-16 (1993).
	Troccolo, P., et al., "Interferometric Measurement of Etch Depths in Phase Shift Masks", BACUS News, Vol. 9, Issue 6, pp. 1 & 4-6, June 1993.
	Watanabe, H., et al., "Phase-Shifting Lithography: Maskmaking and its Application", J. Vac. Sci. Technol. B, Vol. 11, No. 6, pp. 2669-2674, November/December 1993.
	Henderson, R., et al., "Optical Proximity Effect Correction: An Emerging Technology", Microlithography World, pp. 6-12 (1994).
	Waas, T., et al., "Automatic Generation of Phase Shift Mask Layouts", Microelectronic Engineering, Vol. 23, pp. 139-142 (1994).
	Langston, J., et al., "Extending Optical Lithography to 0.25um and Below", Solid State Technology, pp. 57-64, March 1995.
	Nagahiro, Y., "Improved Mask Technique for Photolithography Applied to 0.25um LSI - Improvement of Resolution, Pattern Correction, Exposure Area", Nikkei Microdevices, pp. 1-6, April 1995.
	Okamoto, Y., et al., "A New Phase Shifting Mask Technology for Quarter Micron Photolithography", SPIE, Vol. 2512, pp. 311-318 (1995).

EXAMINER: _____

Date Considered: _____

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP § 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

INFORMATION DISCLOSURE CITATION PTO-1449	Atty. Docket No. NTI-007-1D Applicant PIERRAT, Christophe Filing Date 9/9/2003	Serial No. Filed Herewith Group unknown
---	--	--

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

EXAMINER'S INITIALS	CITATION
	Pierrat, C., et al., "Required Optical Characteristics of Materials for Phase-Shifting Masks", Applied Optics, Vol. 34, No. 22, pp. 4923-4928, August 1, 1995.
	Galan, G., et al., "Alternating Phase Shift Generation for Complex Circuit Designs", SPIE, Vol. 2884, pp. 508-519, September 18-20, 1996.
	Kanai, H., et al., "Sub-Quarter Micron Lithography with the Dual-Trench Type Alternating PSM", SPIE, Vol. 2793, pp. 165-173 (1996).
	Dolainsky, C., et al., "Application of a Simple Resist Model to Fast Optical Proximity Correction", SPIE, Vol. 3051, pp. 774-780 (1997).
	Chen, J., et al., "Full-Chip Optical Proximity Correction with Depth of Focus Enhancement", Microlithography World ,(5 pages) (1997).
	Ishida, S., et al., "Large Assist Feature Phase-Shift Mask for Sub-Quarter Micrometer Window Pattern Formation", SPIE, Vol. 3096, pp. 333-343 (1997).
	Nakae, A., et al., "A Proposal for Pattern Layout Rule in Application of Alternating Phase Shift Mask", SPIE, Vol. 3096, pp. 362-374 (1997).
	Tsujimoto, E., et al., "Hierarchical Mask Data Design System (PROPHET) for Aerial Image Simulation, Automatic Phase-Shifter Placement, and Subpeak Overlap Checking", SPIE, Vol. 3096, pp. 163-172 (1997).
	Yamamoto, K., et al., "Hierarchical Processing of Levenson-Type Phase Shifter Generation", Jpn. J. Appl. Phys., Vol. 36, Part 1, No. 12B, pp. 7499-7503, December 1997.
	Wong, A., et al., "Lithographic Effects of Mask Critical Dimension Error", SPIE, Vol. 3334, pp. 106-115 (1998).
	Gordon, R., et al., "Design and Analysis of Manufacturable Alternating Phase-Shifting Masks", Bacus News, Vol. 14, Issue 12, pp. 1-9, December 1998.
	Nara, M., et al., "Phase Controllability Improvement for Alternating Phase Shift Mask", Dai Nippon Printing Co., Ltd. (16 pages).
	Petersen, J., et al., "Designing Dual-Trench Alternating Phase-Shift Masks for 140nm and Smaller Features Using 248-nm KrF and 193-nm ArF Lithography", Bacus News, Vol. 14, Issue 8, pp. 1 & 4-13, August 1998.
	Balasinski, A., et al., "Comparison of Mask Writing Tools and Mask Simulations for 0.16um Devices", IEEE, SEMI Advanced Semiconductor Manufacturing Conference, pp. 372-377 (1999).

EXAMINER: _____

Date Considered: _____

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP § 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

INFORMATION DISCLOSURE CITATION PTO-1449		Atty. Docket No. NTI-007-1D Applicant PIERRAT, Christophe	Serial No. Filed Herewith
		Filing Date 9/9/2003	Group unknown
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)			
EXAMINER'S INITIALS	CITATION		
	Kuo, C., et al., "Extension of Deep-Ultraviolet Lithography for Patterning Logic Gates Using Alternating Phase Shifting Masks", J. Vac. Sci. Technol. B, Vol. 17, No. 6, pp. 3296-3300, November/December 1999.		
	Palmer, S., et al., "Dual Mask Model-Based Proximity Correction for High Performance 0.10um CMOS Process", The 44th International Conference on Electron, Ion and Photon Beam Technology and Nanofabrication Abstracts, pp. 18-19, May 30-June 2, 2000.		
	Pierrat, C., "Investigation of Proximity Effects in Alternating Aperture Phase Shifting Masks", Numerical Technologies, Inc. (11 pages).		

EXAMINER: _____

Date Considered: _____

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP § 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

INFORMATION DISCLOSURE CITATION PTO-1449	Atty. Docket No. NTI-007-1D Applicant PIERRAT, Christophe Filing Date 9/9/2003	Serial No. Filed Herewith Group unknown
---	--	--

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

EXAMINER'S INITIALS	CITATION
	Ahn, Chang-Nam, et al., "A Study of Optical Proximity Effects Using Off-Axis Illumination with Attenuated Phase Shift Mask", Hyundai Electronics Industries Co., Ltd. (18 pages).
	Callegari, A., et al., "Optical Properties of Hydrogenated Amorphous Carbon Film for Attenuated Phase Shift Mask Applications", IBM (12 pages).
	Dao, Giang, et al., "248nm DUV MoSiON Embedded Phase-Shifting Mask for 0.25 Micrometer Lithography", Intel Corporation, Ulvac Coating Corporation, Mitsubishi Electric Corporation (14 pages).
	Ham, Young-Mog, et al., "Sub-120nm Technology Compatibility of Attenuated Phase Shift Mask in KrF and ArF Lithography", Hyundai Electronics Industries Co., Ltd. (13 pages).
	Iwasaki, H., "Fabricating 0.10um Line Patterns Using Attenuated Phase Shift Masks", NEC Corporation (10 pages).
	Kagami, I., et al., "Attenuated Phase-Shifting Mask Specification with Modified Beam Illumination", Sony Corporation (12 pages).
	Krisa, W.L., et al., "Contact Performance with an Attenuated Phase Shift Reticle and Variable Partial Coherence", Texas Instruments Inc. (8 pages).
	Kyoh, S., et al., "Evaluation of Phase and Transmittance Error on Deep UV Halftone Phase Shift Mask", Toshiba Corporation (3 pages).
	Ma, Z., et al., "Impact of Illumination Coherence and Polarization on the Imaging of Attenuated Phase Shift Masks", Texas Instruments, KLA Tencor (11 pages).
	Martino, R., et al., "Lithographic Evaluation of the Hydrogenated Amorphous Carbon Film", IBM Microelectronics Semiconductor Research and Development (17 pages).
	Mikami, K., et al., "Development of the Halftone Phase Shift Mask for DUV Exposure", Dai Nippon Printing Co., Ltd., pp. 76-90.
	Miyazaki, J., "Information Concerning Ulcoat MoSiON Phase Shifting Blanks", Mitsubishi Electric Corporation (4 pages).
	Samarakone, N., et al., "Comparative Study of I-Line and DUV Lithography for 0.35um and Beyond", Northern Telecom Limited (15 pages).
	Socha, R., et al., "Design of 200nm, 170nm, 140nm DUV Contact Sweeper High Transmission Attenuating Phase Shift Mask Through Simulation Part 1", National Semiconductor Corp., Sematech, MicroUnity Systems Engineering, Inc. (37 pages).

EXAMINER: _____

Date Considered: _____

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP § 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

INFORMATION DISCLOSURE CITATION	Atty. Docket No.	Serial No.
PTO-1449	NTI-007-1D Applicant PIERRAT, Christophe	Filed Herewith
	Filing Date 9/9/2003	Group unknown

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

EXAMINER'S INITIALS	CITATION
	Nakao, S., et al., "0.32um Pitch Random Line Pattern Formation by Dense Dummy Pattern and Double Exposure in KrF Wavelength", Mitsubishi Electric Corporation (10 pages).
	Nakao, S., et al., "Innovative Imaging of Ultra-Fine Line Without Using Any Strong RET", Mitsubishi Electric Corporation, pp. 1-12.
	Yasuzato, T., et al., "Improvement of Resist Pattern Fidelity with Partial Attenuated Phase Shift Mask", ULSI Device Development Labs, NEC Corporation (12 pages).
	Yoshioka, N., et al., "Practical Attenuated Phase-Shifting Mask with a Single-Layer Absorptive Shifter of MoSiO and MoSiON for ULSI Fabrication", ULSI Lab, Mitsubishi Electric Corporation (3 pages).
	Terasawa, T., et al., "Imaging Characteristics of Multi-Phase-Shifting and Halftone Phase-Shifting Masks", Japanese Journal of Applied Physics, Vol. 30, No. 11B, pp. 2991-2997, November 1991.
	Inoue, S., et al., "Simulation Study on Phase-Shifting Masks for Isolated Patterns", Japanese Journal of Applied Physics, Vol. 30, No. 11B, pp. 3010-3015, November 1991.
	Watanabe, H., et al., "Pattern Transfer Characteristics of Transparent Phase Shifting Mask", Japanese Journal of Applied Physics, Vol. 30, No. 11B, pp. 3004-3009, November 1991.
	Lin, B.J., "The Optimum Numerical Aperture for Attenuated Phase-Shifting Masks", Microelectronic Engineering, pp. 79-85 (1992).
	Ito, S., et al., "Optimization of Optical Properties for Single-Layer Halftone Masks", SPIE, Vol. 2197, pp. 99-110 (1994).
	Miyashita, H., et al., "Manufacturing of Half-Tone Phase Shift Masks II. Writing and Process", SPIE, Vol. 2254, pp. 248-260, April 22, 1994.
	Mohri, H., et al., "Chromium-Based Attenuated Phase Shifter for DUV Exposure", SPIE, Vol. 2322, pp. 288-298, September 14-16, 1994.
	Mohri, H., et al., "Manufacturing of Half-Tone Phase Shift Masks I. Blank", SPIE, Vol. 2254, pp. 238-247, April 22, 1994.
	Yokoyama, T., et al., "Manufacturing of Half-Tone Phase Shift Masks III. Inspection, Repair and Quality Assurance", SPIE, Vol. 2254, pp. 261-274, April 22, 1994.
	Rothschild, M., et al., "Lithography at a Wavelength of 193nm", IBM J. Res. Develop., Vol. 41, No. 1/2, pp. 49-55, January/March 1997.

EXAMINER: _____

Date Considered: _____

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP § 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.